

## **I. Listing of Claims**

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

### **Listing of Claims:**

Claims 1-26 (Cancelled).

27. (Previously Presented) A telecommunication system comprising:

a first user interface and a second user interface interconnected by a telecommunications network;

said first user interface connected to at least one computer processor and electronic memory means for executing a first set of programming code that determines said first user interface's requirements for communicating with said second user interface;

said telecommunication network connected to said at least one computer processor and electronic memory means for executing a second set of programming code that determines available network resources of said network; and,

said at least one computer processor and electronic memory means operable to execute a third set of programming code that manages negotiations between said first set of programming code and said second set of programming

code, said negotiations for determining terms of communication between said first user interface and said second user interface through said network, said negotiations based on a trusted negotiating discipline.

28. (Previously Presented) The telecommunication system of claim 27 wherein said trusted negotiating discipline is selectable by a user of said first user interface from a plurality of negotiating disciplines.

29. (Previously Presented) The telecommunication system of claim 27 wherein said requirements include the available hardware resources of said first user interface.

30. (Previously Presented) The telecommunication system of claim 27 wherein said requirements include the network resources needed by an application executing on said first user interface.

31. (Previously Presented) The telecommunication system of claim 30 wherein said application is voice telephony.

32. (Previously Presented) The telecommunication system of claim 27 wherein requirements include the costs that are to be assessed to said first user interface during said communication.

33. (Previously Presented) The telecommunication of system of claim 27 wherein said available network resources include presently available network resources.

34. (Previously Presented) The telecommunication of system of claim 27 wherein said available network resources include a cost of the network resources to be consumed during said communication.

35. (Previously Presented) The telecommunication of system of claim 27 wherein said available network resources include a prediction of network usage during said communication.

36. (Previously Presented) The telecommunication system of claim 27 wherein said first set of programming code is implemented using a software agent programmed with instructions that represent the interests of said first user interface.

37. (Previously Presented) The telecommunication system of claim 27 wherein said third set of programming code is implemented as a negotiation manager software agent.

38. (Previously Presented) The telecommunication system of claim 37 wherein said second set programming code is implemented as a single network software agent.

39. (Previously Presented) The telecommunication system of claim 27 wherein said second set of programming code is implemented as multiple network software agents, each network software agent being respective to a different telecommunication service provider.

40. (Previously Presented) The telecommunication system of claim 27 wherein said second user interface is connected to a computer processor and an electronic memory means for executing a fourth set of programming code that determines said second user interface's requirements for communicating with said first user interface; and

said third set of programming code for further managing said negotiations so as to include said fourth set of programming code.

41. (Previously Presented) The telecommunication system of claim 40 wherein said requirements include the available hardware resources of said second user interface.

42. (Previously Presented) The telecommunication system of claim 40 wherein said requirements include the network resources needed by an application executing on said second user interface.

43. (Previously Presented) The telecommunication system of claim 42 wherein said application is voice telephony.

44. (Previously Presented) The telecommunication system of claim 40 wherein requirements include the costs that are to be assessed to said second user interface during said communication.

45. (Previously Presented) The telecommunication system of claim 27 wherein said communication is voice telephony.

46. (Previously Presented) The telecommunication system of claim 27 wherein said network is an ATM network.

47. (Previously Presented) The telecommunication system of claim 27 wherein said negotiating discipline includes at least one of a round robin, bid-and-ask, bluffing, poker and a reverse auction.

48. (Previously Presented) The telecommunication system of claim 27 wherein said negotiating discipline terminates said negotiation if said negotiations fail to reach an agreement within a predetermined period of time.

49. (Previously Presented) A computer-implemented method for negotiating terms of communication between a first user interface and a second user interface connected by a telecommunications network, said method comprising the steps of:

receiving, from a first set of programming code associated with said first user interface, an offer for said terms of communication, said first user interface's offer including said first user interface's requirements for communicating with said second user interface through said network;

verifying said first user interface's offer conforms with a trusted negotiation discipline;

presenting said first user interface's offer to a second set of programming code associated with said network if said first user interface's offer conforms with said discipline;

receiving, from said second set of programming code, another offer for said terms of communication, said another offer including at least said network's available resources for said communication, and including a modification of said first user interface's offer;

returning said another offer to said first set of programming code if said another offer conforms with said discipline;

repeating the foregoing steps if said offers conform with said discipline;  
terminating said negotiating if any one of said offers and counteroffers fail  
to converge according to said negotiation discipline; and  
notifying said first set of programming code and said second set of  
programming code of terms of any one of said offers and counteroffers that  
converge according to said negotiating discipline.

50. (Previously Presented) The computer-implemented method according to  
claim 49 wherein said offer is for initiating said communication.

51. (Previously Presented) The computer-implemented method according to  
claim 49 wherein said communication is ongoing and said offer is for modifying  
terms of an said existing communication.

52. (Previously Presented) A user interface comprising:

a user-input hardware resource for receiving an input of a communication  
from a user;

a user-output hardware resource for presenting an output of said  
communication to said user;

a computer processing hardware resource for executing a software  
application that processes said input from said user-input hardware resource and  
processes said output to said user-output hardware resource; and,

a connection means for connecting said computer processing hardware resource to a second user interface via a network, said connecting means further for connecting to at least one computer processor and electronic memory means that is operable to execute a first set of programming code for determining said user interface's requirements for conducting said communication with said second user interface, said first set of programming code further for negotiating terms of said communication with a second set of programming code that determines available network resources of said network, the negotiation between said first set of programming code and said second set of programming code managed by a third set of programming code that bases said negotiation on a trusted negotiating discipline.

53. (Previously Presented) The user interface of claim 52 wherein said trusted negotiating discipline is selectable by a user of said first user interface from a plurality of negotiating disciplines.

54. (Previously Presented) The user interface of claim 52 wherein said requirements include the available hardware resources of said first user interface.

55. (Previously Presented) The user interface of claim 52 wherein said requirements include the network resources needed by an application executing on said user interface.



56. (Previously Presented) The user interface of claim 55 wherein said application is voice telephony.

57. (Previously Presented) The user interface of claim 52 wherein requirements include the costs that are to be assessed to said first user interface during said communication.

58. (Previously Presented) The user interface of claim 52 wherein said available network resources include presently available network resources.

59. (Previously Presented) The user interface of claim 52 wherein said available network resources include a cost of the network resources to be consumed during said communication.

60. (Previously Presented) The user interface of claim 52 wherein said available network resources include a prediction of network usage during said communication.

61. (Previously Presented) The user interface of claim 52 wherein said first set of programming code is implemented using a software agent programmed with instructions that represent the interests of said first user interface.

62. (Previously Presented) The user interface of claim 52 wherein said third set of programming code is implemented as a negotiation manager software agent.

63. (Previously Presented) The user interface of claim 52 wherein said second set programming code is implemented as a single network software agent.

64. (Previously Presented) The user interface of claim 52 wherein said second set of programming code is implemented as multiple network software agents, each network software agent being respective to a different telecommunication service provider.

65. (Previously Presented) The user interface of claim 52 wherein said communication is voice telephony.

66. (Previously Presented) The user interface of claim 52 wherein said network is an ATM network.

67. (Previously Presented) The user interface of claim 52 wherein said negotiating discipline includes at least one of a round robin, bid-and-ask, bluffing, poker and a reverse auction.

68. (Previously Presented) The user interface of claim 52 wherein said negotiating discipline terminates said negotiation if said negotiations fail to reach an agreement within a predetermined period of time.

69. (Previously Presented) A telecommunication network comprising:

an interconnection means to connect a first user interface with a second user interface, said interconnection means operable to consume a variable amount of network resources;

a computer processing hardware resource for executing a software application that processes a communication between said first user interface and said second user interface through said interconnection means;

a connection means for connecting said computer processing hardware resource to at least one computer processor and electronic memory means that is operable to execute a network set of programming code for determining an available amount of network resources, said network set of programming code further for negotiating terms of said communication with a second set of programming code that determines requirements for said communication of at least said first user interface, the negotiation between said network set of programming code and said second set of programming code managed by a third set of programming code that bases said negotiation on a trusted negotiating discipline.

70. (Previously Presented) The telecommunication network of claim 69 wherein said trusted negotiating discipline is selectable by a user of said first user interface from a plurality of negotiating disciplines.

71. (Previously Presented) The telecommunication network of claim 69 wherein said requirements include the available hardware resources of said first user interface.

72. (Previously Presented) The telecommunication network of claim 69 wherein said requirements include the network resources needed by an application executing on said user interface.

73. (Previously Presented) The telecommunication network of claim 69 wherein said application is voice telephony.

74. (Previously Presented) The telecommunication network of claim 69 wherein requirements include the costs that are to be assessed to said first user interface during said communication.

75. (Previously Presented) The telecommunication network of claim 69 wherein said available network resources include presently available network resources.

76. (Previously Presented) The telecommunication network of claim 69 wherein said available network resources include a cost of the network resources to be consumed during said communication.

77. (Previously Presented) The telecommunication network of claim 69 wherein said available network resources include a prediction of network usage during said communication.

78. (Previously Presented) The telecommunication network of claim 69 wherein said second set of programming code is implemented using a software agent programmed with instructions that represent the interests of said first user interface.

79. (Previously Presented) The telecommunication network of claim 69 wherein said third set of programming code is implemented as a negotiation manager software agent.

80. (Previously Presented) The telecommunication network of claim 69 wherein said network set programming code is implemented as a single network software agent.

81. (Previously Presented) The telecommunication network of claim 69 wherein said network set of programming code is implemented as multiple network

software agents, each network software agent being respective to a different telecommunication service provider.

82. (Previously Presented) The telecommunication network of claim 69 wherein said communication is voice telephony.

83. (Previously Presented) The telecommunication network of claim 69 wherein said network is an ATM network.

84. (Previously Presented) The telecommunication network of claim 69 wherein said negotiating discipline includes at least one of a round robin, bid-and-ask, bluffing, poker and a reverse auction.

85. (Previously Presented) The telecommunication network of claim 69 wherein said negotiating discipline terminates said negotiation if said negotiations fail to reach an agreement within a predetermined period of time.

86. (Previously Presented) An apparatus for managing a network comprising:  
a connection means to connect to a telecommunication network and to connect to a first user interface that is seeking to establish an interconnection with a second user interface via said telecommunication network; and,  
a computer processor and electronic memory means attached to said connection means that is operable to execute a negotiation-management set of

programming code that manages a negotiation between a first-user interface set of programming code and a network set of programming code, said first-user interface set of programming code for determining said first user interface's requirements for communicating with said second user interface and representing said first-user interface's interests during said negotiation, said network set of programming code for determining available network resources and representing said set network's interests during said negotiation, said negotiation-management set of programming code basing said negotiation on a trusted negotiating discipline.

87. (Previously Presented) The apparatus according to claim 86 wherein said connection means is further operable to connect to said second user interface and said negotiation-management set of programming code manages said negotiation so as to include a second-user interface set of programming code for determining said second user interface's requirements for communicating with said first user interface and representing said second user interface's interests during said negotiation.

88. (Previously Presented) The apparatus according to claim 86 wherein said trusted negotiating discipline is selectable by a user of said first user interface from a plurality of negotiating disciplines.

89. (Previously Presented) The apparatus according to claim 86 wherein said requirements include the available hardware resources of said first user interface.

90. (Previously Presented) The apparatus according to claim 86 wherein said requirements include the network resources needed by an application executing on said user interface.

91. (Previously Presented) The apparatus according to claim 86 wherein said wherein said application is voice telephony.

92. (Previously Presented) The apparatus according to claim 86 wherein said requirements include the costs that are to be assessed to said first user interface during said communication.

93. (Previously Presented) The apparatus according to claim 86 wherein said available network resources include presently available network resources.

94. (Previously Presented) The apparatus according to claim 86 wherein said available network resources include a cost of the network resources to be consumed during said communication.



95. (Previously Presented) The apparatus according to claim 86 wherein said available network resources include a prediction of network usage during said communication.

96. (Previously Presented) The apparatus according to claim 86 wherein said first user-interface set of programming code is implemented using a software agent programmed with instructions that represent the interests of said first user interface.

97. (Previously Presented) The apparatus according to claim 86 wherein said negotiation-management set of programming code is implemented as a negotiation manager software agent.

98. (Previously Presented) The apparatus according to claim 86 wherein said network set programming code is implemented as a single network software agent.

99. (Previously Presented) The apparatus according to claim 86 wherein said network set of programming code is implemented as multiple network software agents, each network software agent being respective to a different telecommunication service provider.

100. (Previously Presented) The apparatus according to claim 86 wherein said communication is voice telephony.

101. (Previously Presented) The apparatus according to claim 86 wherein said network is an ATM network.

102. (Previously Presented) The apparatus according to claim 86 wherein said negotiating discipline includes at least one of a round robin, bid-and-ask, bluffing, poker and a reverse auction.

103. (Previously Presented) The apparatus according to claim 86, wherein said negotiating discipline terminates said negotiation if said negotiations fail to reach an agreement within a predetermined period of time.

104. (Previously Presented) The apparatus according to claim 86, wherein said negotiation is initiating said communication.

105. (Previously Presented) The apparatus according to claim 86, wherein said communication is ongoing and said negotiation is for modifying terms of an said existing communication.